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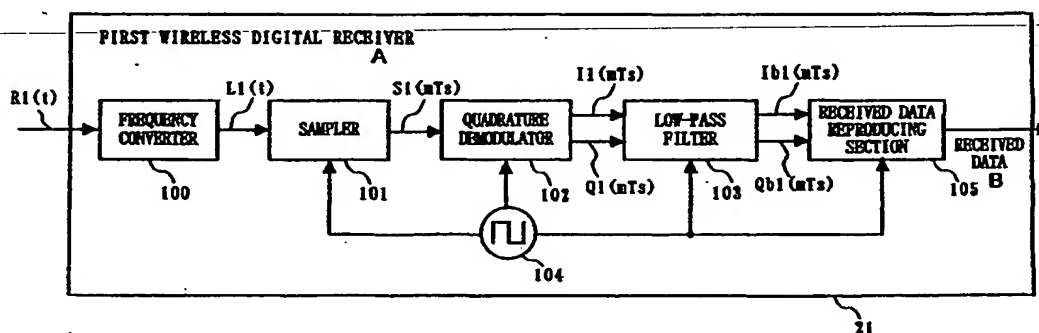
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(54) Title: WIRELESS COMMUNICATIONS SYSTEM AND WIRELESS DIGITAL RECEIVER FOR USE THEREIN



(57) Abstract: A base station 2 demodulates a wireless signal after downconverting the signal to a low-frequency signal whose center frequency is f_i [Hz] and oversampling the signal. A mobile station 3 demodulates a wireless signal after downconverting the signal to a low-frequency signal whose center frequency is f_d [Hz] and undersampling the signal. The same sampling frequency f_s [Hz] is used in the base station 2 and in the mobile station 3. The sampling frequency f_s [Hz] is set to a value that is an even-number multiple of a wireless symbol transmission rate such that oversampling is done in the base station 2 and undersampling is done in the mobile station 3. The center frequency f_i [Hz] is $1/2$ to 1 times a frequency corresponding to the bandwidth and is $1/2^N$ (N is a natural number) times the sampling frequency f_s [Hz].